Frequently Asked Questions about Heavy-duty "Gliders Vehicles" and "Glider Kits"

On October 25, 2016, EPA promulgated new regulations to reduce the number of heavy-duty glider vehicles produced using older, dirtier diesel engines. The FAQ document provides brief answers to common questions about how EPA is regulating glider vehicles.

1. What are heavy-duty "glider vehicles" and "glider kits"?

The term "glider kit" is used in the heavy-duty vehicle industry to describe a chassis and cab assembly that is generally produced by a vehicle manufacturer without a new engine, transmission, or rear axle. See Figure 1. A third party then typically installs a used engine, transmission, and/or rear axle to complete assembly of the vehicle. EPA defines "glider vehicles" to refer to the completed vehicles and "glider kits" to refer to the incomplete vehicles – and applies its regulations to both. (See 40 CFR 1037.801 of EPA's regulatory text.)

Historically, gliders have been used as a means to salvage valuable components, such as used engines, transmissions, and axles, from vehicles that were badly damaged in collisions. Gliders have been most popular for salvaging the components of the largest and most expensive class of heavy-duty vehicles (i.e. "Class 8"). More recently the agencies have observed a sharp increase in glider sales, which suggests that gliders were being used more and more as a loophole to avoid purchasing engines that meet 2010 EPA emission standards. In fact, although glider vehicles can be produced by reusing relatively new (and clean) engines, nearly all the gliders produced in the 2010-2016 timeframe used older engines.

Figure 1 - Typical Glider Kit

2. Are emissions from gliders a significant problem?

Most gliders manufactured in the 2010-2016 timeframe used remanufactured model year 2001 or older engines. Typically these engines have NOx and particulate matter (PM) emissions **20 to 40 times** higher than today's clean diesel engines. Since 2010 when EPA's current NOx and PM standards for heavy duty engines took effect, glider sales have increased more than **10-fold** as compared to the 2004-2006 time frame.[1] EPA believes this increase reflected an attempt to avoid using engines that comply with EPA's 2010 standards, and is an attempt to circumvent the Clean Air Act's purpose to protect human health and the environment.

Over its lifetime, a single glider vehicle would emit over 40 tons of NOx and nearly three-quarters of ton of PM. Without the new controls, EPA projects that there would have been over 125,000 of these glider vehicles on the road in 2025, and that they would have emitted nearly 300,000 tons of NOx and 8,000 tons of PM annually. Although these glider vehicles would have made up only 5 percent of heavy-duty tractors on the road, their emissions would have represented about one-third of all NOx and PM emissions from heavy-duty tractors in 2025.

3. Is EPA banning gliders?

No, EPA is not banning gliders. EPA is clarifying existing requirements that apply already to gliders for greenhouse gas emissions, and is restricting the numbers of high polluting older engines that can be installed in glider vehicles.

4. What regulations has EPA adopted for gliders in its recent rulemaking?

In general, EPA is doing four things:

a. Clarifying the existing HD Phase 1 EPA greenhouse gas emission requirements for gliders.
b. Adopting new requirements for most gliders to have engines installed that meet the same requirements new emissions-compliant engines must meet.
c. Providing additional flexibility for gliders produced for the traditional purpose of salvaging relatively new powertrains from vehicle chassis that fail prematurely.
d. Providing flexibility for certain small businesses.

Each of these general areas is discussed further in related questions below.

a) What were the <u>previous</u> EPA requirements for gliders, and how were these clarified?

EPA has clarified that gliders, because they are "***new vehicles***" under the Clean Air Act, are subject to EPA's current HD Phase 1 GHG emission standards for new ***vehicles*** in 40 CFR part 1037, with some exemptions for small businesses. This means that glider vehicles not produced by small businesses were already required to comply with the HD Phase 1 greenhouse gas vehicle standards.

The earlier regulations (which have been revised) did not prohibited the use of older model ***engines,*** such as those that have been rebuilt or remanufactured for additional use. However, these engines have always had to comply with emissions standards applicable to their own model year of

[1] Based on the following report that has been placed into the public docket for this rulemaking: "Industry Characterization of Heavy Duty Glider Kits", MacKay & Company, September 30, 2013.

manufacture. In other words, EPA's earlier regulations allowed older engines to be installed into new glider kits, as long as they remained in their originally certified configuration.

b) What *new* requirements has EPA adopted in the HD Phase 2 Final Rulemaking?

Beginning January 1, 2017 EPA will generally require engines installed in new gliders to meet the same requirements as new emissions-compliant engines – both for GHGs and for other harmful pollutants such as NOx and PM. For example, if a glider was produced in 2020, it could use any engine that met the standards for model year 2020 engines. This could be an earlier model year engine that was originally subject to the same requirements, such as a model year 2018 engine.

To enable a smoother transition to the new requirements, EPA has included an allowance for existing glider kit and glider vehicle manufacturers to produce a significant number of gliders under the old rules in 2017. This allowance is limited to the manufacturer's highest annual production volume for 2010 through 2014. For most manufacturers, this will limit their production in 2017 to the number of vehicles they produced in 2014.

Beginning in model year 2021, Phase 2 standards for heavy duty vehicles will also apply to gliders.

c) What flexibility is being provided for gliders produced for traditional purposes?

EPA is providing additional flexibility for gliders produced using relatively new engines, like what would be expected to be used for the traditional purpose of salvaging relatively new powertrains from vehicle chassis that fail prematurely. Most significantly, EPA will allow manufacturers to reuse 2010 and later engines without recertifying them to meet current standards. EPA will also allow manufacturers to reuse older engines without recertifying them to meet current standards, provide they accumulated very few miles. Such engines are consistent with the traditional purpose of glider kits. This flexibility would not apply for most engines used in the 2010-2016 timeframe because they generally were much older and had many more miles on them. See 40 CFR 1037.635 for additional details on this flexibility.

d) What are the exemptions for small businesses that manufacture/assemble gliders for model years 2018 and beyond?

The HD Phase 1 regulations include an exemption for small businesses from all of the HD Phase 1 requirements of 40 CFR part 1037. This exemption, which was included in the Phase 1 rulemaking as an interim provision, also covers glider manufacturers. This blanket exemption ends on January 1, 2017.

In place of the blanket exemption, EPA has adopted a limited "grandfather" provision for existing small businesses that previously installed used engines into gliders. Under these special provisions, existing small businesses will be allowed to continue their production at 2014 levels up to 300 assembled gliders per year under the same type of exemption that covered them in HD Phase 1.[2] Any additional gliders an existing small business produces (beyond their 2014 production rates or beyond 300 per year, as applicable) will need to meet the new requirements for both engines and vehicles. These grandfathering provisions for existing small businesses should allow this industry to produce enough gliders to address traditional purposes (e.g., salvaging engines and other parts from damaged vehicles). However, manufacturers that have significantly ramped up glider production in recent years to avoid

[2] Small manufacturers that had a higher production rates in a year before 2014 may produce at that rate if it was less than 300.

EPA's 2010 NOx and PM engine standards and other requirements, may need to alter their business practices.

5. How did EPA develop this small business exemption?

Prior to issuing the proposal for this rule, EPA convened a formal panel with the Small Business Administration (SBA) and the Office of Management and Budget (OMB) to consider ways to minimize impacts on small businesses. As a central part of this process, EPA invited potentially affected small businesses to serve as Small Entity Representatives (SERs) that would help the panel to identify and address adverse impacts on small businesses. One of the SERs was a small manufacturer that assembled gliders. This manufacturer helped the panel to understand how this rule would impact small businesses that assemble gliders. Based in large part on this input, the panel recommended providing an exemption like the one that was adopted. The official Panel Report has been placed into the public docket for this rulemaking.

6. What requirements apply if I manufacture/assemble glider kits or glider vehicles?

Anyone that manufactures or assembles glider kits or glider vehicles must ensure that each vehicle is covered by a valid certificate or a valid exemption prior to its initial introduction into commerce, and must also ensure that the vehicle is properly labeled. They must keep records of their production and submit an end-of-year production report to EPA as specified in the regulations.

7. What requirements apply for dealers that sell/distribute glider kits or glider vehicles, but do not manufacture or assemble them?

Dealers that merely sell or distribute glider kits or glider vehicles must ensure that the vehicle is properly labeled when they receive it. These dealers may not make any modifications to the vehicle that would invalidate the certificate or exemption. Note that manufacturers may apply other conditions to ensure that each vehicle conforms fully to the regulations when delivered to the ultimate purchaser.

8. What are the benefits of these new provisions?

EPA projects that these new requirements will reduce emissions from glider vehicles by about two-thirds by 2025. This equates to nearly 200,000 tons of NOx and over 5,000 tons of PM annually. The monetized benefits of these reductions would be at least $3.7 billion annually.

9. Why is EPA implementing these provisions so quickly?

As noted above, EPA estimates that a single glider vehicle will emit over 40 tons of NOx and nearly three-quarters of a ton of PM over its lifetime. Industry sources estimate that manufacturers are currently producing at least 10,000 gliders per year. This means a one-year delay in these new requirements could result in over 400,000 additional tons of NOx and nearly 700 additional tons of PM being emitted into the atmosphere over the lifetime of these glider vehicles. EPA estimates that reducing the number of gliders produced in 2017 using the older, dirtier engines will prevent 350 to 1,600 premature mortalities, and will result in monetized benefits over $3 billion.

10. Where can I find more information about EPA's regulations for glider vehicles?

EPA discussed these regulations fully in the HD Phase 2 Greenhouse Gas Rulemaking. Information on this rulemaking can be found at:

https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-commercial-trucks